



## **A Comparative Study of CSFV Antibody Levels in Pigs Vaccinated with the Chimeric Vaccine CP7\_E2GIF or a C-Strain Vaccine**

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# **D 1: A COMPARATIVE STUDY OF CSFV ANTIBODY LEVELS IN PIGS VACCINATED WITH THE CHIMERIC VACCINE CP7\_E2GIF OR A C-STRAIN VACCINE**

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**Key words: DIVA, diagnostic, vaccination, CSFV, Chimeric vaccine**

Classical swine fever (CSF) is a viral disease affecting both domestic pigs and wild boars worldwide. Outbreaks of CSF impair internal and international trade of pigs and pig products. Therefore, the disease is of major importance from an economic as well as welfare view. Effective live attenuated vaccines against CSFV are available and many of these provide lifelong immunity. However, the antibody response induced by these vaccines cannot be distinguished from that observed in naturally infected animals and therefore great efforts are currently focusing on the development of new DIVA vaccines allowing differentiation of infected from vaccinated animals.

Previously, the chimeric virus vaccine, CP7\_E2gif, has been presented as a safe live DIVA vaccine candidate against CSF (Rasmussen et al., 2007). CP7\_E2gif is unique as no CSFV sequence is present in the genome. Thus, the backbone consists of Bovine viral diarrhoea (BVDV) strain CP7 of which the envelope protein E2 has been replaced with E2 from Border disease virus (BDV) strain Gifhorn. Therefore, CSFV E2 specific DIVA detection is an option (Rasmussen et al., 2008; Rasmussen et al 2009).

The aim of the present study was to further evaluate the DIVA specificity of the chimeric pestivirus CP7\_E2gif compared to the C-strain "Riems" conventional live attenuated vaccine. Two groups of 12 pigs were vaccinated by intramuscular injection with each of the 2 vaccines, respectively, and the serological response was measured twice weekly up to 28 days after vaccination. Furthermore, the pigs were monitored daily for general health status, clinical signs of disease and body temperatures. Necropsy with special focus on pathological changes, which could be linked to the vaccination, was carried out on 3 pigs every week from post vaccination day (PVD) 7 to 28. After vaccination, all 24 pigs remained healthy as neither clinical, pathological nor body temperature changes were observed. Seroconversion, measured by a routine blocking CSFV ELISA, could be observed from day 14 post vaccination in pigs vaccinated with C-strain. In contrast, CP7\_E2gif vaccinated pigs were not tested antibody positive during the 28 days period. Further analyses for BDV and CSFV E2 specific antibodies in serum samples from the vaccinated pigs as well as for the presence of neutralizing antibodies against CSFV, BVDV and BDV are in progress and these results will be presented at the meeting.

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## *References*

- Rasmussen, T.B, Uttenthal, A., Reimann, I., Nielsen, J., Depner, K. and Beer, M. (2007): Virulence, immunogenicity and vaccine properties of a novel chimeric pestivirus. J Gen Virol 88, 481-486.
- Rasmussen, T.B, Reimann, I., Beer, M. and Uttenthal, A. (2008): DIVA properties of the chimeric pestivirus CP7\_E2gif. Poster presented at the EPIZONE 2nd annual meeting in Brescia.
- Rasmussen, T.; Rasmussen, T.B. and Uttenthal (2009): Further evaluation of the DIVA vaccine properties of the chimeric pestivirus CP7-E2gif using commercially available CSFV ELISA kit systems. Poster presented at the EPIZONE 3rd annual meeting in Antalya.